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SENATE

{ REPORT
106-33

METHANE HYDRATE RESEARCH AND DEVELOPMENT ACT OF 1999

MARCH 22, 1999.—Ordered to be printed

Mr. MURKOWSKI, from the Committee on Energy and Natural
Resources, submitted the following

REPORT

[To accompany S. 330]

The Committee on Energy and Natural Resources, to which was referred the bill (S. 330) to promote the research, identification, assessment, exploration, and development of methane hydrate sources, and for other purposes, having considered the same, reports favorably thereon without amendment and recommends that the bill do pass.

PURPOSE OF THE MEASURE

The purpose of S. 330, as ordered reported, is to direct the Secretary of Energy, in consultation with the Secretaries of Defense and the Interior, and the Director of the National Science Foundation, to commence a program of methane hydrate research and development

BACKGROUND AND NEED

Methane hydrates are molecules of natural gas trapped inside the crystalline cages formed by frozen water molecules. They exist where low temperatures and high pressures squeeze water and methane into a solid form. Methane hydrates are found in many areas throughout the world. Preliminary studies by the U.S. Geological Survey indicate the presence of enormous quantities of methane hydrates along the Eastern seaboard of the United States, under the permafrost and off the coast of Alaska, and in the Gulf of Mexico. It is estimated that methane hydrates located in the United States contain about 300,000 trillion cubic feet of natural

gas. By comparison, the U.S. annually consumes about 22 trillion cubic feet of natural gas.

Given the great potential for energy and scientific benefits from methane hydrate research, S. 330 authorizes the establishment of a methane hydrate research and development program within the Department of Energy, to be carried out in consultation with the Departments of Defense and the Interior, and the Director of the National Science Foundation.

LEGISLATIVE HISTORY

S. 330 was introduced on January 28, 1999 by Senators Akaka, Lott, Landrieu, Craig, and Graham. It is similar to legislation (S. 1418) that passed the Senate last session. In the 105th Congress, the Subcommittee on Energy Research, Development, Production and Regulation held a hearing on the bill on May 21, 1998. The bill was favorably reported, with amendments, on June 24, 1998. On July 17, it was reported to the Senate, with written report No. 105-248 and placed on the Senate Legislative Calendar. S. 1418 passed the Senate by Unanimous Consent on July 17, 1998.

At the business meeting on March 4, 1999, the Committee on Energy and Natural Resources ordered S. 330 favorably reported.

COMMITTEE RECOMMENDATIONS

The Committee on Energy and Natural Resources, in open business session on March 4, 1999, by a unanimous voice vote of a quorum present, recommends that the Senate pass S. 330, as described herein.

SECTION-BY-SECTION ANALYSIS

Section 1 gives the short title of S. 330.

Section 2 provides the definitions of terms used in S. 330.

Section 3 directs the establishment of the methane hydrate research and development program. Paragraph (a) states that the Secretary of Energy shall commence a methane hydrate research and development program no later than 180 days after the date of enactment of S. 330. The Secretary of Energy shall consult with the Secretaries of Defense and the Interior, and the Director of National Science Foundation. These individuals, or their designees, are directed to meet not less frequently than every 120 days to review the progress of the program and to make recommendations on future activities.

Paragraph (b) permits the Secretary of Energy to award grants or contracts to, or enter into cooperative agreements with, universities and industrial enterprises for purposes of implementing the methane hydrate research and development program. The Secretary of Energy may also establish an advisory panel of experts from industry, academia, and Federal agencies to provide advice on implementing the methane hydrate program.

Paragraph (c) provides limitations on the use of funds made available to carry out the methane hydrate research and development program.

Paragraph (d) lists the responsibilities of the Secretary of Energy in implementing the methane hydrate research and development program.

Section 4 amends the definition of “marine mineral resource” in the Mining and Mineral Policy Act of 1970 (as added by the Marine Mineral Resources Research Act of 1996) to include methane hydrates.

Section 5 authorizes the appropriation of such funds as are necessary to carry out the methane hydrate research and development program.

COST AND BUDGETARY CONSIDERATIONS

The following estimate of the cost of this measure has been provided by the Congressional Budget Office:

U.S. CONGRESS,
CONGRESSIONAL BUDGET OFFICE,
Washington, DC, March 9, 1999.

Hon. FRANK H. MURKOWSKI,
Chairman, Committee on Energy and Natural Resources,
U.S. Senate, Washington, DC.

DEAR MR. CHAIRMAN: The Congressional Budget Office has prepared the enclosed cost estimate for S. 330, the Methane Hydrate Research and Development Act of 1999.

If you wish further details on this estimate, we will be pleased to provide them. The CBO staff contact is Kim Cawley.

Sincerely,

BARRY B. ANDERSON
(For Dan L. Crippen, Director).

Enclosure.

CONGRESSIONAL BUDGET OFFICE COST ESTIMATE

S. 330—Methane Hydrate Research and Development Act of 1999

Summary: S. 330 would authorize the Department of Energy (DOE) to begin a program of research and development in the use of methane hydrate as a source of energy, through grants, contracts, and cooperative agreements with universities and industrial enterprises. Deposits of methane hydrate occur in deep ocean and permafrost areas of the world and consist of methane-water ice-like crystalline material. Based on information from DOE, CBO estimates that the proposed research program would cost about \$45 million over the next five years, assuming appropriation of the necessary amounts. S. 330 would not affect direct spending or receipts; therefore, pay-as-you-go procedures would not apply.

The bill contains no intergovernmental or private-sector mandates as defined in the Unfunded Mandates Reform Act (UMRA) and would have no costs on the budgets of state, local, or tribal governments.

Estimated cost to the Federal Government: The estimated budgetary impact of S. 330 is shown in the following table. The costs of this legislation fall within budget function 270 (energy).

	By fiscal year, in millions of dollars				
	2000	2001	2002	2003	2004
SPENDING SUBJECT TO APPROPRIATION					
Estimated authorization level	5	5	11	12	12
Estimated outlays	2	4	7	10	12

Basis of estimate: For purposes of this estimate, we assume that S. 330 will be enacted before the end of fiscal year 1999 and that outlays from the new program would occur at the same rate as observed for similar existing programs. The bill would authorize the appropriation of such sums as are necessary to conduct a research and development program. Based on information in DOE's 1998 program plan for methane hydrate, CBO estimates this activity would require appropriations totaling about \$45 million over the next five years.

Pay-as-you-go considerations: None.

Intergovernmental and private-sector impact: S. 330 contains no intergovernmental or private-sector mandates as defined in UMRA and would impose no costs on the budgets of state, local, or tribal governments. State universities may benefit from research grants, contracts, or cooperative agreements provided with funds authorized by this bill.

Estimate prepared by: Kim Cawley.

Estimate approved by: Robert A. Sunshine, Deputy Assistant Director for Budget Analysis.

REGULATORY IMPACT EVALUATION

In compliance with paragraph 11(b) of rule XXVI of Standing Rules of the Senate, the Committee makes the following evaluation of the regulatory impact which would be incurred in carrying out S. 330. The bill is not a regulatory measure in the sense of imposing Government-established standards or significant economic responsibilities on private individuals and businesses.

No personal information would be collected in administering the program. Therefore, there would be no impact on personal privacy.

Little, if any, additional paperwork would result from the enactment of S. 330, as ordered reported.

EXECUTIVE COMMUNICATIONS

On March 11, 1999, the Committee on Energy and Natural Resources requested legislative reports from the Department of Energy and the Office of Management and Budget setting forth Executive agency recommendations on S. 330. These reports had not been received at the time the report on S. 330 was filed. When the reports become available, the Chairman will request that they be printed in the Congressional Record for the advice of the Senate.

CHANGES IN EXISTING LAW

In compliance with paragraph 12 of rule XXVI of the Standing Rules of the Senate, changes in existing law made by the bill S. 330, as ordered reported, are shown as follows (existing law proposed to be omitted is enclosed in black brackets, new matter is

printed in italic, existing law in which no change is proposed is shown in roman):

PUBLIC LAW 104–325 104TH CONGRESS

AN ACT To promote the research, identification, assessment, and exploration of marine mineral resources, and for other purposes

Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled,

SECTION 1. SHORT TITLE.

This Act may be cited as the “Marine Mineral Resources Research Act of 1996”.

* * * * *

SEC. 201. DEFINITIONS.

In this title:

(1) The term ‘contract’ has the same meaning as ‘procurement contract’ in section 6303 of title 31, United States Code.

(2) The term ‘cooperative agreement’ has the same meaning as in section 6305 of title 31, United States Code.

(3) The term ‘eligible entity’ means—

(A) a research or educational entity chartered or incorporated under Federal or State law;

(B) an individual who is a United States citizen; or

(C) a State or regional agency.

(4) The term ‘grant’ has the same meaning as ‘grant agreement’ in section 6304 of title 31, United States Code.

(5) The term ‘in-kind contribution’ means a noncash contribution provided by a non-Federal entity that directly benefits and is related to a specific project or program. An in-kind contribution may include real property, equipment, supplies, other expendable property, goods, and services.

(6) *The term ‘methane hydrate’ means a methane clathrate that—*

(A) is in the form of a methane-water ice-like crystalline material; and

(B) is stable and occurs naturally in deep-ocean and permafrost areas.

[(6)](7) The term ‘marine mineral resource’ means—

(A) sand and aggregates;

(B) placers;

(C) phosphates;

(D) manganese nodules;

(E) cobalt crusts;

(F) metal sulfides;

(G) methane hydrate; and

[(G)] (H) other marine resources that are not—

(i) oil and gas;

(ii) fisheries; or

(iii) marine mammals.

[(7)] (8) The term 'Secretary' means the Secretary of the Interior.

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